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PATENT & TRADEMARK

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Re: 10/679,534 clarification response

Dear Mr. Olson:

Thank you very much for your evaluation. After thoroughly reviewing the comparison between the Hybrid Wing-in-Ground Effect Vee Hull and the Modified Tunnel Hull Boat patented by Fehn, patent # 4,091,761 on May 30, 1977 I am confident there is not a conflict. The two patents are distinctly different and the claims as provided in the last correspondence remain unique, as shall be shown in a detailed response below:

Patent Examiners Claim Rejections:

Claims 1-11 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fehn (US 4,091,761)

Fehn discloses the same hull as claimed, as shown in Figures 1-14, that is comprised of a central hull with a buoyant section and a deep vee bow section with a step, as shown in figures 1-3, and buoyant outboard chines, defined as Parts 20 and 21, that extend below said hull as shown in figures 5-9 and provide a means for trapping air and water to provide lift to said hull, as described in lines 27-39 of column 1.

Response:

The Fehn hull does not have a deep vee bow. Fehn describes his hull as "A modified tunnel hull boat in which there are two downwardly extending sponsons defining a tunnel between their walls, the boat having a center rib projecting downwardly from the bottom of the boat into the tunnel and having a lower wall which acts as a planning surface." Fehn discloses two sponsons originating in the bow of the boat which, by definition, precludes the Fehn hull from being a deep vee. The sponsons Fehn describes are fully developed hulls like a catamaran. The addition of the "center rib" in the Fehn hull makes it a modified trimaran. The bow of Fehn's hull has three distinct fully developed hull sections. Also, Fehn describes the center section of his hull as providing a planning surface. A deep vee bow does not provide a planning surface. A deep vee bow is used to cut through waves and give a gentle motion, not to provide lift to the hull. The Fehn hull has a center section which has a flat bottom for planning that would pound in a seaway which is completely contrary to a deep vee hull section.

To illustrate the difference between the deep vee bow from the wing in ground effect hull in this patent versus the trimaran hull of the Fehn patent a comparison is presented below. The Fehn section is taken from Figure 4 of patent # 4,091,761. Both sections are ~20% aft of the bow of each boat.

to sponsons in the aft most sections but not in the forward sections. The two boats are clearly distinct and one could not be an inspiration the other. Nor is it possible to conclude that a marriage of any two existing patents could be intuitively combined to create the present invention.

Fehn states in lines 36-40

Sponsons 20 and 21 have substantially vertical inner walls 22 and 23, respectively, and outer walls that approach the inner walls so that the lower surface of sponsons 20 and 21 is narrow and provides little planning effect.

Fehn's disclosure in lines 36-40 stand in stark contrast to the present invention where the outboard chines are wide in the aft sections and are designed to enhance planning. The outboard chines in the Guerard hull are designed to have a wide flat bottom surface aft suitable for accommodating a jet drive. It is critical to have undisturbed flow of water into the water jet. The sharp Vee shape of the sponsons in the Fehn patent make the Fehn hull unsuitable for use with water jets.

Patent Examiners Claim Rejections Continued:

A space between said chines, as shown in Figure 2, becomes progressively narrower as said chines extend aft in order to create a venture effect beneath said hull, as described in lines 36-47 of column 2. Said outboard chines also provide transverse and longitudinal stability.

Fehn states in lines 40-47

As will be pointed out, these inner walls converge towards each other to produce a pair of venture throats. Basically, despite their convergence, however, they at all times extend basically vertical with respect to the shear plane 24 of the boat, defined by the top of the gunwales 17 and 19. The spaced walls 22 and 23 form a tunnel and to this extent, the boat is a tunnel hull.

Response:

Fehn describes "a pair of venturi throats" as being created by the hull. This is because the Fehn hull is a trimaran having three distinct hulls creating two venturis between the three hulls. The hull in the present invention has creates only one venture by trapping air and water between the two outboard chines. The uniqueness of the present invention is further reinforced by the Fehn disclosure.

The following page shows an excerpt including a plan view, Figure 2, of the bottom hull from the Fehn patent. Note the three hull sections and two venturi sections between the hulls. Also note item 38, the narrowing section for the venturis, and items 23 and 24 which widen the two venturis after they have narrowed.